

**Khyber Pakhtunkhwa Human Capital Investment Project**

Facilitator Training Manual on Promoting Healthy Living & Preventing Non-Communicable diseases

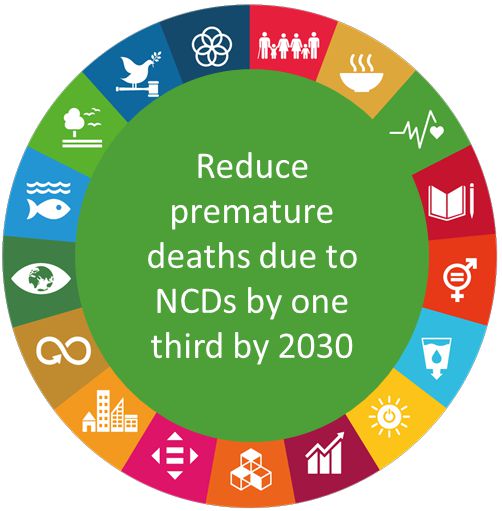
**EXECUTIVE SUMMARY**

Non-Communicable Diseases, also known as chronic diseases, are long-term illnesses that develop slowly and are not passed from person to person. They result from a combination of genetic, physical, environmental and behavioral factors. The main types of NCDs include cardiovascular diseases such as heart attacks and stroke, cancers, chronic respiratory diseases like asthma and chronic obstructive pulmonary disease (COPD) and diabetes. Together, these diseases are responsible for around 41 million deaths each year—about 71% of all deaths worldwide.

Prevention and control of NCDs require action at both community and individual levels. At the community level, reducing exposure to common risk factors such as tobacco use, unhealthy diet, physical inactivity and harmful use of alcohol can significantly lower disease burden. At the individual level, identifying people at high risk, encouraging healthy lifestyle changes and providing appropriate treatment are important steps to prevent complications and premature deaths.

Managing NCDs involves early detection, proper screening, diagnosis and treatment of these conditions, along with providing palliative care for patients who need long-term support. These services can be effectively delivered through primary health care, where early and timely management helps prevent severe illness and reduces the need for costly hospital treatments. Strengthening primary health care for NCDs is therefore an excellent investment for improving community health outcomes.

Countries with limited health insurance or weak health systems may find it difficult to ensure universal access to NCD services. However, investing in NCD prevention and management is essential to achieve global targets—such as reducing premature deaths from NCDs by 25% by 2025 and by one-third by 2030, as part of the Sustainable Development Goals. By improving early detection, treatment and community awareness, Pakistan can make significant progress toward controlling the growing burden of NCDs.



**Activity:** Non-Communicable Diseases Manual

**Project Name:** Khyber Pakhtunkhwa Human Capital Investment Project

(KP-HCIP)

**Sponsored by:** World Bank

**Adapted from:** WHO Package of Essential Non-Communicable (PEN) Disease Interventions for Primary Health Care

**Implemented by:** Department of Health, Khyber Pakhtunkhwa, Pakistan

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**Acknowledgement:**

The development of the *Non-Communicable Diseases (NCDs) Training Manual* has been made possible through the dedicated efforts and collaboration of multiple partners under the Khyber Pakhtunkhwa Human Capital Investment Project (KP-HCIP). This manual represents the collective commitment of the Department of Health, Khyber Pakhtunkhwa and its development partners to strengthen the prevention, early detection and management of NCDs across the province.

We extend our sincere gratitude to the Directorate General Health Services (DGHS), the KP-HCIP Project Management Unit and all technical experts, trainers and healthcare professionals who contributed their knowledge, experience and valuable feedback during the development of this manual. Their dedication to improving NCD services and promoting healthier communities has been central to this effort.

Special appreciation is also extended to the primary healthcare teams, hospital managers and frontline health workers whose ongoing commitment to addressing non-communicable diseases at the community level continues to inspire and inform this initiative.

This manual is designed as a practical resource for healthcare providers at all levels, supporting capacity building, improved service delivery and the integration of NCD prevention and control into routine healthcare. Through this collaborative endeavor, we aim to reduce the burden of NCDs, promote healthy lifestyles and contribute to a healthier and more resilient Khyber Pakhtunkhwa.

**Introduction to the Manual**

This Non-Communicable Diseases (NCDs) Manual for Facilitators is designed to help trainers and health professionals strengthen the capacity of primary health care workers in the prevention, early detection and management of NCDs. The manual provides practical and easy-to-understand information on the four main groups of NCDs — cardiovascular diseases, diabetes, cancers and chronic respiratory diseases — which are the leading causes of illness and death worldwide.

The manual aligns with the World Health Organization’s Package of Essential Noncommunicable Disease Interventions (WHO PEN) for primary health care in low-resource settings. The WHO PEN strategy offers a set of cost-effective, evidence-based interventions for the prevention and management of common NCDs at the primary health care level. It focuses on early detection, integrated management of major NCDs, lifestyle modification and strengthening referral linkages to ensure continuity of care.

By using this manual, facilitators will be able to conduct interactive training sessions that promote understanding of NCD risk factors, screening methods and treatment protocols based on the WHO PEN approach. The manual also encourages the use of participatory learning methods to enhance problem-solving and decision-making skills among health workers.

**TRAINING MATERIAL:**

* *Trainers Manual*: A detailed guide (hard and soft copies) as how to conduct each session along with necessary training material will be provided to each facilitator.
* *Participants Manual:* This booklet will be provided to each participant (both hard and soft copies) containing all the necessary information for future reference.

**How to Use This Manual**

This *Non-Communicable Diseases (NCDs) Training Manual* is designed to strengthen the knowledge and practical skills of healthcare professionals involved in the prevention, early detection and management of NCDs. It aims to support the integration of NCD services within the primary healthcare system and promote a proactive, patient-centered approach to chronic disease control in Khyber Pakhtunkhwa.

The manual serves as both a training guide and reference resource for healthcare trainers, supervisors and frontline workers. It is structured to encourage active learning through discussions, case studies and group exercises. Facilitators are encouraged to adapt the content to local contexts and use participatory training techniques to ensure maximum engagement and understanding.

**Objectives of the NCD Training**

1. *Enhance Knowledge of Non-Communicable Diseases*

Strengthen healthcare providers’ understanding of the epidemiology, types and risk factors of NCDs, including cardiovascular diseases, diabetes, cancers and chronic respiratory diseases. Emphasize evidence-based prevention and management strategies suitable for primary healthcare settings.

1. *Promote Early Detection and Effective Case Management*

Build the capacity of healthcare workers to screen, diagnose and manage NCDs using standardized protocols and tools. Emphasize the importance of timely referral, follow-up care and adherence to treatment guidelines.

1. *Encourage Healthy Lifestyles and Risk Reduction*

Equip participants with skills to educate and counsel individuals and communities on modifiable risk factors such as tobacco use, unhealthy diet, physical inactivity and harmful use of alcohol. Promote behavior change communication and community-based prevention strategies.

**Potential Workshop Participants include:**

* Primary Healthcare Workers including Medical Officer, Medical Technician, Lady Health Visitor & Lady Health Supervisors
* Program Managers of district and provincial health departments
* Organizations working in Primary Healthcare Settings

**Expected Outcomes**

Participants will develop a comprehensive understanding of the core principles of Non-Communicable Disease (NCD) prevention, control and management within the primary healthcare context. They will be equipped to identify and address key factors influencing NCD outcomes, including early detection, risk factor modification, effective treatment, patient-centered care and continuity of follow-up. Through this training, healthcare workers will gain the knowledge and practical skills required to deliver safe, evidence-based and equitable NCD services across all levels of care.

Furthermore, participants will strengthen their communication, counseling and teamwork competencies, enabling them to engage effectively with colleagues, patients, families and communities. By the end of the training, healthcare workers will be able to implement national NCD guidelines, promote healthy behaviors and lead local initiatives to prevent and manage chronic diseases. Ultimately, the training aims to develop a skilled and motivated workforce capable of reducing the burden of NCDs, improving patient outcomes and contributing to a healthier and more resilient population in Khyber Pakhtunkhwa.

**Training Agenda**

Complete details for each block and its sub sessions with information about methodology, different interactive activities and resource materials required are listed in detail. In this manual, Participatory techniques are adapted to make learning as hands-on as possible. The training agenda has been made flexible for the trainers. The training agenda is set for 2 days for healthcare providers working in primary settings including BHUs, RHCs, Civil Dispensaries, Category-C and Category-D hospitals.

### Facilitation Methods

Trainers should apply adult learning principles while considering the participants' varying levels of experience in the healthcare delivery system. An effective trainer will leverage the skills and personalities within the group to create an engaging and productive workshop. The following participatory training methods can be beneficial:

1. ***Power Point Presentation***

The facilitator should present information in a way that encourages group interaction, promoting an interactive learning environment. To enhance presentations, the facilitator can use anecdotes, humor, handouts, PowerPoint slides, audio-visual materials and ask questions to engage participants.

1. ***Brainstorming***

Brainstorming encourages quick, collaborative discussions on a topic, fostering creativity and generating ideas swiftly. It’s particularly useful for building consensus around contentious issues, with points raised during the session often recorded on a flip chart.

1. ***Real Life Experience Sharing***

This method allows selected participants or guest speakers to share relevant life experiences that connect to the topics being discussed, adding a personal touch to the content. It’s important to ensure that speakers stay on topic and adhere to their allotted time.

1. ***Small Group Discussion***

The primary goal of small group discussions is to maximize participation and foster new insights among participants. Groups of four or five are ideal, as they allow for more personal interaction, reduce intimidation and encourage idea exchange. Considerations for group work include the topic, objectives, assigned tasks, desired participation level, available resources, time management, group composition (including gender) and seating arrangements. Each group should have a chairperson and a note-taker, with key points recorded on a flip chart for reporting back to the larger group. The facilitator should then synthesize and clarify any emerging issues.

1. ***Case Study***

In this method, participants analyze a real or fictional case in small groups before discussing it with the larger group. The facilitator presents the case details and invites participants to propose solutions and share their opinions without dictating the best answer or critiquing contributions.

1. **Logistic Support:**

Training arrangements should be made well in advance and all necessary equipment and supplies should be arranged. Required training equipment include:

* Laptop, projector & un-interrupted power supply
* Flip Flowcharts with Stand
* Colored Markers, Sticky Notes
* Necessary Stationary Required for participants (Writing pad, pen, pencil etc)
* Required No. of pre-test and post-test questionnaires copies
* Required No. of participants handouts

1. **Preparatory Checklist for the trainer**

The trainer should:

* Thoroughly understand the training manual's content.
* Review the training objectives, session outlines and activities for each session, including learning goals, time, resources and trainer instructions as detailed in the manual.
* Familiarize themselves with the session slides, particularly those with presentations.
* Review the pre/post-test and course evaluation forms and prepare copies for all participants.
* Make copies of handouts, role-play scenarios and checklists to ensure all audio-visual equipment is functional.
* Check the training venue, including seating arrangements, lighting and fans or air conditioning (for summer).
* Create flip flowcharts as needed for the sessions

**MODULE ONE**

**INTRODUCTION TO NON-COMMUNICABLE DISEASES**



**Module One**

**Introduction to Non-Communicable Diseases**

**Session: Overview of Non-Communicable Diseases (NCDs)**

**Training Methods**

* ***Brainstorming and Q&A sessions*** to assess participants’ existing understanding of NCDs and their impact.
* ***Group work and discussions*** to apply concepts to local contexts (e.g., PHC settings in KP and Pakistan).
* ***Interactive presentations*** using slides, local data and WHO PEN examples.
* ***Case studies and role-play*** to strengthen participants’ skills in early detection, counselling and referral of NCD cases.

**Training Facilities and Materials**

* Projector and slides for facilitator presentations.
* Flip charts, markers and handouts for group work.
* WHO PEN protocol summaries for primary health care workers.

**Session Objectives**

By the end of this session, participants will be able to:

1. Define Non-Communicable Diseases (NCDs) and describe their major types and global impact.
2. Identify the key modifiable behavioural, metabolic and environmental risk factors contributing to NCDs in Pakistan.
3. Explain the importance of early detection and management of NCDs through the primary health care system.
4. Understand the WHO PEN strategy and its relevance to NCD prevention and control in low-resource settings.

**Session Outline**

|  |  |  |
| --- | --- | --- |
| Activity | Content/Details | Materials/Tools |
| Introduction & Overview | Introduce session objectives and importance of NCDs in Pakistan. Present global and local NCD burden. | PowerPoint slides, global and Pakistan NCD stats |
| Understanding NCDs | Define NCDs, explain main types (CVDs, cancer, diabetes, chronic respiratory diseases). | PowerPoint slides with visuals |
| NCD Risk Factors | Explain behavioural (tobacco, diet, alcohol, inactivity), metabolic (hypertension, obesity, high sugar/lipids) and environmental (air pollution) risk factors. | Charts, slides and WHO visuals |
| NCD Management and WHO PEN | Explain early detection, treatment and referral using the WHO PEN strategy. Highlight PHC’s role. | WHO PEN summary handout, flip chart |
| Group Activity: Mapping NCD Risk Factors | Participants identify local risk factors and propose practical prevention strategies. | Flip charts, markers, sticky notes |
| Group Presentations & Discussion | Each group shares findings; facilitator leads reflection on common issues and feasible actions. | Presentation space |
| Conclusion & Wrap-Up | Summarize key takeaways: NCD burden, risk factors, prevention through PHC and WHO PEN approach. | Slide with key takeaways and SDG targets |

**Activity: “Mapping NCD Risk Factors in Our Communities”**

**Materials Needed:**

* Flip charts
* Sticky notes
* Markers
* Tape or pins to hang charts

**Objective:**  
To help participants identify and analyze the key behavioural, metabolic and environmental risk factors contributing to NCDs in their own communities and discuss practical interventions for prevention and management.

**Instructions to the Trainer (Before the Activity):**

* Divide participants into 4–5 small groups (5–6 people each).
* Give each group a flip chart and markers.
* Assign each group one category of risk factor: *Behavioural, Metabolic, Environmental,* or *Health System Challenges*.
* Ensure that participants from different districts and settings (urban/rural) are mixed for diverse perspectives.

**Activity Flow:**

**Step 1: Introduction and Brainstorm**   
Explain the three major categories of NCD risk factors (behavioural, metabolic and environmental). Ask:

“Which of these risk factors are most common in your communities?”

**Step 2: Group Work**   
Each group will:

* List key risk factors under their assigned category.
* Identify local examples (e.g., tobacco use, air pollution, diet patterns, limited physical activity).
* Suggest possible community-level interventions that PHC workers can support.

|  |  |  |
| --- | --- | --- |
| Group | Assigned Theme | Example Guiding Question |
| 1 | **Behavioural Risk Factors** | How can we reduce tobacco and alcohol use in communities? |
| 2 | **Metabolic Risk Factors** | How can we improve screening for blood pressure and diabetes at BHUs? |
| 3 | **Environmental Risk Factors** | What community actions can reduce air pollution and unsafe environments? |
| 4 | **Health System Barriers** | What are the major challenges in NCD detection and referral at PHC level? |

**Step 3: Group Presentations**   
Each group presents their findings briefly (3–4 minutes per group). Facilitator notes similarities, differences and innovative local ideas.

**Step 4: Reflection and Discussion**   
Facilitator asks:

* Which risk factors are increasing in your district?
* What role can PHC staff play in prevention and early management?
* How can the WHO PEN strategy be implemented locally?

**PowerPoint Presentation Content Breakdown**

1. **Introduction to NCDs**
   * Definition and classification
   * Global burden: 41 million deaths annually (71% of all deaths)
   * Major types: CVDs, cancers, chronic respiratory diseases, diabetes
2. **Modifiable Behavioural Risk Factors**
   * Tobacco use (8 million deaths/year)
   * Unhealthy diet (high salt/sugar/fat intake)
   * Physical inactivity (830,000 deaths/year)
   * Harmful use of alcohol
3. **Metabolic and Environmental Risk Factors**
   * Raised blood pressure, obesity, high blood glucose, high blood lipids
   * Air pollution and other environmental hazards
4. **WHO PEN Strategy**
   * Core package for NCDs in primary care
   * Focus on early detection, lifestyle counselling and referral systems
   * Integration of NCD care into PHC services
5. **Importance of Investment**
   * Cost-effective early intervention reduces hospital costs
   * Aligns with global targets: 25% reduction in premature deaths by 2025, one-third by 2030 (SDGs)

**Activity 2: Group Case Study**

**Case Study Example:**  
*A rural PHC in KP reports an increase in hypertension and diabetes cases among adults aged 30–50. However, screening coverage is low and patients often present late with complications.*

**Group Task:**

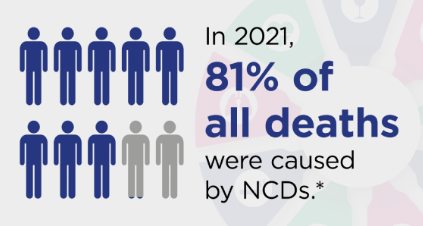
1. Identify possible causes (e.g., low awareness, lack of screening tools, unhealthy diet, poor follow-up).
2. Suggest interventions based on WHO PEN (e.g., community screening, lifestyle counselling, referral system).
3. Present key recommendations to strengthen NCD prevention and management at PHC level.

**Expected Outcomes:**

* Participants will understand the common NCDs and their risk factors.
* They will link WHO PEN interventions with local PHC realities.
* They will identify practical, community-level actions to reduce NCD burden.

**MODULE TWO**

**STATISTICS OF NCDS**



**MODULE TWO**

**STATISTICS OF NON-COMMUNICABLE DISEASES (NCDs)**

**Session Title:** Understanding the Global and National Burden of NCDs

**Training Methods**

* Interactive presentation and Q&A to explain global and national statistics on NCDs.
* Group discussion and brainstorming to connect data with participants’ local experiences.
* Case study analysis using data interpretation from Pakistan’s STEPS Survey.
* Visual learning through charts, graphs and WHO data figures.

**Training Facilities and Materials**

* Laptop, projector and PowerPoint slides for data presentation.
* Flip charts, markers and pens for group discussion.
* Printed WHO NCD Fact Sheet (Global) and Pakistan STEPS Survey summary.
* Handouts containing global and national NCD data.
* Map of Pakistan showing regional NCD prevalence (optional visual aid).

**Session Objectives**

By the end of this session, participants will be able to:

1. Describe the global burden of NCDs and identify which diseases contribute most to mortality worldwide.
2. Interpret key statistics related to NCDs, including premature deaths and their distribution by income level.
3. Analyze the national burden of NCDs in Pakistan and recognize emerging trends from available data.

**Session Outline**

|  |  |  |
| --- | --- | --- |
| Activity | Content/Details | Materials/Tools |
| Introduction & Overview | Welcome participants and share session objectives. Present the importance of using data to understand the NCD burden. | PowerPoint slides, WHO infographic |
| Presentation: Global NCD Burden | Present global NCD statistics: 41 million deaths yearly, major causes (CVD, cancer, diabetes, respiratory diseases) and premature deaths. | PowerPoint slides, WHO data sheet |
| Presentation: NCDs in Pakistan | Discuss that 57% of deaths in Pakistan are due to NCDs; highlight findings from Pakistan STEPS Survey. | Flip chart with Pakistan map, STEPS data |
| Group Activity: Interpreting NCD Data | Groups analyze and present global and national data, linking it to their own local experiences. | Flip charts, markers, printed handouts |
| Wrap-Up and Key Takeaways | Recap major learning points: global vs national trends, role of PHC, importance of NCD data. Encourage participants to use data in health planning. | Slide with summary points |

**Activity: “Interpreting NCD Data – From Global to Local”**

**Materials Needed:**

* Flip charts and markers
* WHO global NCD infographic (printed or projected)
* Pakistan STEPS Survey data handout
* Sticky notes

**Objective:**  
To help participants interpret NCD data, compare global and local trends and discuss implications for PHC service delivery in Pakistan.

**Instructions to the Trainer:**

* Divide participants into 4 small groups (5–6 people each).
* Provide each group with printed data sets — half from global WHO data and half from Pakistan’s STEPS or local survey data.
* Assign each group one discussion question linking global statistics to the Pakistani context.

**Activity Flow:**

**Step 1: Introduction**   
Facilitator briefly presents key figures:

* 41 million deaths globally due to NCDs (74% of total deaths).
* 17 million deaths before age 70, mostly in low- and middle-income countries.
* In Pakistan, 57% of all deaths are caused by NCDs.

**Step 2: Group Discussion**   
Each group reviews their assigned data and answers one question:

|  |  |
| --- | --- |
| Group | Discussion Question |
| 1 | Which NCDs cause the most deaths globally and why are these diseases increasing? |
| 2 | Why do most premature NCD deaths occur in low- and middle-income countries? |
| 3 | What does Pakistan’s STEPS survey tell us about local NCD trends and risk factors? |
| 4 | How can PHC facilities use NCD statistics to plan prevention and awareness activities? |

**Step 3: Group Discussion**  
Each group discuss their key insights.

**Step 4: Reflection and Wrap-Up**   
Facilitator summarizes key comparisons between global and Pakistani data.  
Prompts for discussion:

* What NCDs are most common in your district?
* Are there visible risk factors in your communities?
* How can data help you prioritize NCD interventions at the PHC level?

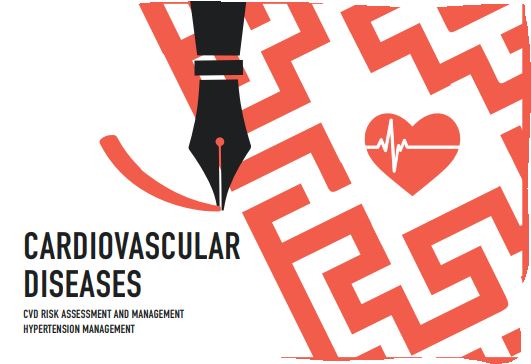
**PowerPoint Presentation**

1. **Global Overview of NCDs**
   * 41 million deaths each year (74% of all deaths globally)
   * 17 million premature deaths (before age 70), 86% in low- and middle-income countries
   * 77% of NCD deaths occur in LMICs
   * Main contributors:
     + Cardiovascular diseases – 17.9 million
     + Cancers – 9.3 million
     + Chronic respiratory diseases – 4.1 million
     + Diabetes – 2.0 million (including kidney disease due to diabetes)
   * Four diseases cause over 80% of all NCD deaths
2. **Key Global Risk Factors**
   * Tobacco use (8 million deaths annually)
   * Unhealthy diet (high salt/sugar/fat)
   * Physical inactivity
   * Harmful use of alcohol
   * Air pollution
3. **Pakistan’s NCD Burden**
   * NCDs account for 57% of total deaths in Pakistan
   * Major contributors: cardiovascular diseases, cancers, diabetes and chronic respiratory diseases
   * Rising rates of hypertension, obesity and diabetes in adults
   * Lack of national surveillance led to Pakistan STEPS Survey to measure risk factors
4. **Pakistan STEPS Survey (Overview)**
   * Purpose: To collect standardized national data on NCD risk factors
   * Key findings: high rates of tobacco use, low physical activity, unhealthy diet and high blood pressure prevalence
   * Importance: Helps policymakers and PHC staff plan prevention and control programs
5. **Key Takeaways**
   * NCDs are a growing threat globally and nationally.
   * Data-driven action is essential for prevention and control.
   * PHC workers play a critical role in collecting data, promoting awareness and implementing WHO PEN interventions.

**Facilitator Notes**

* Keep the discussion interactive—relate statistics to participants’ own health centers or districts.
* Encourage use of real-world examples (e.g., hypertension screening data from local BHUs).
* Use the WHO PEN framework to link statistics with prevention and management strategies.
* Remind participants that data drives action—without accurate data, planning for NCD services remains weak.

**MODULE THREE**



## ****MODULE THREE****

## ****Cardiovascular Diseases (CVDs)****

### ****Learning Objective:****

To understand the prevention, early detection and management of **cardiovascular diseases (CVDs)** and **diabetes mellitus (DM)** in line with **WHO PEN protocols** for primary health care.

### ****Session 1: Cardiovascular Diseases (CVDs)****

#### ****Overview****

Cardiovascular diseases (CVDs) are the **leading cause of death globally**, responsible for about **17.9 million deaths annually.** CVDs refer to a group of disorders affecting the **heart and blood vessels,** including **coronary heart disease, cerebrovascular disease (stroke), rheumatic heart disease** and **peripheral artery disease.**More than 80% of all CVD deaths are due to **heart attacks and strokes** and nearly one-third of these deaths occur **prematurely** in people under 70 years of age.

### ****Key Risk Factors****

CVDs share several modifiable and non-modifiable risk factors.

**Modifiable Risk Factors:**

* Tobacco use and exposure to second-hand smoke
* Unhealthy diet (high in salt, sugar and saturated fats)
* Physical inactivity
* Harmful use of alcohol
* Overweight and obesity
* Raised blood pressure
* Raised blood glucose

**Non-Modifiable Risk Factors:**

* Increasing age
* Family history of CVD
* Gender (men are at higher risk earlier in life)

### ****WHO PEN Approach to CVD Prevention and Management****

The **WHO PEN** provides a practical, step-by-step framework for managing CVDs at the **primary health care level.**

#### ****1. Prevention and Health Promotion****

* Educate communities about healthy lifestyle choices (balanced diet, regular exercise, avoiding tobacco and alcohol).
* Promote routine blood pressure and blood glucose screening at all PHC facilities.
* Encourage salt reduction and weight management.
* Integrate CVD risk assessment during all outpatient visits for adults over 30 years.

#### ****2. Screening and Early Detection****

* **Measure blood pressure** for all adults at every visit.
* **Screen for diabetes** (fasting or random blood glucose).
* **Assess total cardiovascular risk** using WHO CVD risk charts (10-year risk of heart attack or stroke).
* Identify individuals with **high risk** (≥20%) for urgent intervention.

#### ****3. Management and Treatment****

For individuals with raised blood pressure, diabetes, or high CVD risk:

* Provide **lifestyle counselling** (diet, exercise, smoking cessation).
* Start **pharmacological treatment** as per WHO PEN protocols:
  + **Hypertension:** initiate low-dose thiazide diuretic, ACE inhibitor, or calcium channel blocker as needed.
  + **Diabetes:** initiate metformin as first-line therapy if blood glucose remains elevated despite lifestyle changes.
  + **High CVD risk or history of CVD:** provide daily **aspirin (as per indication)** and **statin** therapy.

***Monitor regularly:*** follow-up every 3 months until control is achieved, then every 6 months.

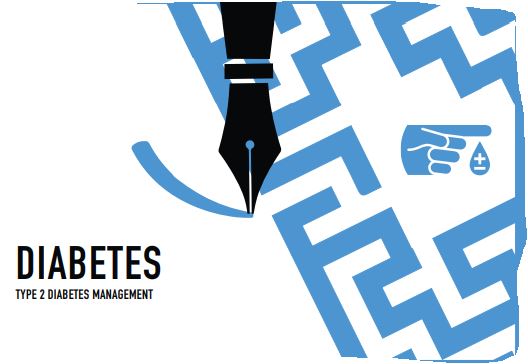
#### ****4. Referral and Follow-Up****

* Refer patients with complications (chest pain, stroke, heart failure) to higher-level facilities.
* Maintain a patient register for tracking outcomes and follow-up visits.
* Coordinate care between PHC and tertiary care for continuity of treatment.

### ****Facilitator’s Notes****

* Use case studies to demonstrate risk assessment using WHO CVD risk charts.
* Encourage group discussion on lifestyle modification techniques in the community.
* Conduct a short role-play on counselling patients with hypertension.
* Reinforce the importance of teamwork and data recording for follow-up.

**MODULE FOUR**



## ****MODULE FOUR****

## ****Diabetes Mellitus (DM)****

### ****Learning Objective:****

To enable participants to understand the prevention, early detection and management of **Diabetes Mellitus (DM)** in accordance with **WHO PEN protocols** and to strengthen their ability to identify, counsel and manage patients at the **primary health care level.**

### ****Session Outline:****

1. Overview of Diabetes Mellitus
2. Risk Factors and Complications
3. Prevention and Health Promotion
4. Screening and Diagnosis (as per WHO PEN)
5. Management and Follow-Up
6. Practical Exercises / Case Scenarios

### ****1. Overview of Diabetes Mellitus****

**Diabetes Mellitus (DM)** is a **chronic disease** that occurs when the **pancreas does not produce enough insulin** or when the **body cannot effectively use the insulin it produces**. Insulin is a hormone that regulates blood glucose (sugar). When this function is impaired, blood sugar levels rise — a condition called **hyperglycemia**. Over time, uncontrolled diabetes can lead to **serious damage to the heart, blood vessels, eyes, kidneys and nerves**.

Globally, diabetes is on the rise. In **2022**, about **14% of adults aged 18 years and older** were living with diabetes, compared to **7% in 1990**. In many low- and middle-income countries, including Pakistan, more than half of adults with diabetes do not receive regular treatment or medication. In **2021**, diabetes directly caused **1.6 million deaths** and nearly **half of these occurred before age 70**. High blood glucose also contributes to kidney disease and cardiovascular deaths worldwide.

### ****2. Risk Factors for Diabetes Mellitus****

**Modifiable Risk Factors:**

* Unhealthy diet (high sugar and fat intake, low fruit and vegetable consumption)
* Physical inactivity
* Overweight and obesity
* High blood pressure and cholesterol
* Tobacco use and harmful alcohol use

**Non-Modifiable Risk Factors:**

* Increasing age (risk increases after 40 years)
* Family history of diabetes
* History of gestational diabetes
* Certain ethnic backgrounds (South Asians are at higher risk)

### ****3. Prevention and Health Promotion (WHO PEN Step 1)****

***Primary Prevention*** focuses on reducing risk factors before diabetes develops:

* Promote **healthy eating:** increase intake of vegetables, fruits and whole grains; reduce salt, sugar and saturated fats.
* Encourage **at least 150 minutes of physical activity per week** (e.g., brisk walking, cycling).
* Conduct **community awareness sessions** on maintaining a healthy weight and avoiding tobacco.
* Integrate **healthy lifestyle counselling** into routine PHC visits.

***Secondary Prevention*** focuses on early detection and management:

* Screen adults aged **30 years and above**, especially those who are overweight or have a family history of diabetes.
* Encourage regular check-ups for patients with hypertension or high cholesterol.

### ****4. Screening and Diagnosis (WHO PEN Step 2)****

Screening can be done using simple, low-cost methods at PHC facilities.

**Diagnostic Criteria:**

* ***Fasting blood glucose (FBG):*** ≥126 mg/dl (7.0 mmol/L)
* ***Random blood glucose (RBG):*** ≥200 mg/dl (11.1 mmol/L) with symptoms of diabetes
* ***HbA1c (if available):*** ≥6.5%

**Screening Steps:**

1. Ask about symptoms: increased thirst, frequent urination, unexplained weight loss, fatigue, blurred vision, or slow-healing wounds.
2. Measure **fasting or random blood glucose**.
3. If results are elevated, confirm diagnosis on another day.
4. Record all results in the **NCD patient register** and plan follow-up.

### ****5. Management and Follow-Up (WHO PEN Steps 3–4)****

Once diagnosed, diabetes management should be **comprehensive and continuous.**

#### ****Lifestyle Modification (First-line intervention)****

* Encourage a **balanced diet** with controlled carbohydrate intake.
* Promote **weight reduction** for overweight patients.
* Encourage **regular exercise** (30 minutes per day, 5 days per week).
* **Stop tobacco use** and limit alcohol intake.

#### ****Pharmacological Management****

* If lifestyle changes do not control blood glucose after 3 months, start **Metformin** (unless contraindicated).
* If glucose remains uncontrolled, add a **second oral agent or insulin**, as per national guidelines.
* Treat **hypertension** (target <140/90 mmHg) and **high cholesterol** to prevent complications.
* Provide **aspirin and statins** to patients with high cardiovascular risk (as per WHO PEN CVD risk charts).

#### ****Monitoring and Follow-Up****

* Recheck fasting blood glucose every **3 months.**
* Monitor **blood pressure, weight and foot health** at each visit.
* Encourage **adherence to treatment** and regular visits even when symptoms are absent.
* Educate patients about **recognizing warning signs** (vision changes, numbness, wounds, etc.).
* Refer patients with complications (e.g., vision loss, kidney disease, ulcers) to higher-level facilities.

### ****6. Facilitator Guidance & Activities****

**Suggested Learning Activities:**

* ***Group discussion*:** Identify barriers to diabetes management in your health facility.
* ***Case study:*** Practice diagnosis and follow-up planning for a patient with uncontrolled diabetes.
* ***Role play:*** Counselling a newly diagnosed patient on lifestyle changes.
* ***Quick quiz*:** Reinforce diagnostic thresholds and WHO PEN treatment steps.

**Key Messages for Facilitators:**

* Emphasize early screening for adults 30 years and above.
* Encourage consistent lifestyle counselling during every patient visit.
* Link diabetes management with CVD risk assessment for holistic care.
* Reinforce documentation and follow-up through NCD registers.

### ****7. Key Takeaways****

* Diabetes is a preventable and manageable chronic disease.
* Early detection and consistent follow-up at **primary health care level** can prevent serious complications.
* The **WHO PEN strategy** provides a simple, stepwise approach for screening, management and referral of diabetes patients.
* Empowering PHC workers with practical tools and communication skills is essential for achieving better diabetes control in the community.

**MODULE FIVE**



## ****MODULE FIVE****

## ****Chronic Respiratory Diseases (CRDs)****

### ****Learning Objective:****

To strengthen participants’ understanding of **Chronic Respiratory Diseases (Asthma and COPD)** — their prevention, early detection and management according to the **WHO Package of Essential Noncommunicable Disease Interventions (PEN)** — and to improve the capacity of PHC workers to provide quality respiratory care in their communities.

### ****Session Outline:****

1. Overview of Chronic Respiratory Diseases (CRDs)
2. Common Risk Factors and Triggers
3. Prevention and Health Promotion (WHO PEN Step 1)
4. Screening and Diagnosis (WHO PEN Step 2)
5. Management and Follow-Up (WHO PEN Steps 3–4)
6. Facilitator Activities and Discussion

### ****1. Overview of Chronic Respiratory Diseases (CRDs)****

**Chronic Respiratory Diseases** are long-term diseases that affect the airways and other structures of the lungs. The most common are:

* **Asthma:** a chronic inflammation of the airways that causes recurrent episodes of wheezing, breathlessness, chest tightness and coughing.
* **Chronic Obstructive Pulmonary Disease (COPD):** a preventable and treatable disease characterized by persistent respiratory symptoms and airflow limitation, usually due to exposure to noxious particles or gases — most commonly from tobacco smoke or biomass fuels.

Globally, **chronic respiratory diseases cause about 4.1 million deaths each year** — roughly 10% of all NCD deaths. COPD is responsible for most CRD deaths, followed by asthma. In Pakistan, exposure to **indoor air pollution, tobacco use and occupational dust** are key contributors to the high burden of CRDs, especially among women and low-income populations using solid fuels for cooking.

### ****2. Risk Factors and Triggers****

**Modifiable Risk Factors:**

* Tobacco smoking (active and passive exposure)
* Indoor air pollution from biomass fuel
* Outdoor air pollution and occupational dusts
* Frequent respiratory infections
* Poor ventilation and overcrowding

**Non-Modifiable Risk Factors:**

* Family history of asthma or allergies
* Advanced age (for COPD)
* Genetic predisposition

**Common Triggers (especially for Asthma):**

* Dust, smoke, perfumes, cold air
* Respiratory infections
* Exercise without warm-up
* Emotional stress

### ****3. Prevention and Health Promotion (WHO PEN Step 1)****

**Primary Prevention:**

* **Promote tobacco cessation** using brief counselling at PHC level.
* Encourage use of **clean cooking fuels** and improved ventilation.
* Educate communities on reducing exposure to **dust and smoke.**
* Promote **early treatment of respiratory infections** to prevent complications.

**Health Education Messages for Patients:**

* Avoid known triggers such as dust, cold air and smoke.
* Take medications regularly, even if symptoms improve.
* Demonstrate proper **inhaler use** at every visit.
* Encourage physical activity as tolerated.

### ****4. Screening and Diagnosis (WHO PEN Step 2)****

At PHC level, **screening and early detection** rely on simple tools and symptom recognition.

**Key Screening Questions:**

1. Do you cough most days for 3 months or more each year?
2. Do you bring up sputum most days for 3 months or more each year?
3. Do you get breathless more easily than your peers?
4. Do you wheeze or have tightness in your chest?
5. Do you have a history of asthma, allergy, or smoking?

**Diagnostic Approach (WHO PEN guidance):**

* ***Asthma:*** episodic wheezing, chest tightness, breathlessness that improves with bronchodilator (salbutamol).
* ***COPD*:** persistent cough with sputum, breathlessness and a history of smoking or biomass exposure; symptoms are chronic and progressive.
* ***Confirm diagnosis*:** with **Peak Expiratory Flow Rate (PEFR)** or **spirometry** (if available).

**Differentiation between Asthma and COPD:**

|  |  |  |
| --- | --- | --- |
| Feature | Asthma | COPD |
| Onset | Often in childhood | Usually after 40 years |
| Symptoms | Episodic, variable | Persistent, progressive |
| Smoking history | May be absent | Common |
| Reversibility | Good response to bronchodilators | Partial/poor response |

### ****5. Management and Follow-Up (WHO PEN Steps 3–4)****

#### ****A. Non-Pharmacological Management****

* ***Stop smoking*:** Offer cessation counselling and referral to tobacco cessation services.
* ***Avoid triggers*:** Identify and remove exposure to smoke, dust and pollutants.
* ***Educate on inhaler technique*:** Demonstrate correct use at every visit.
* ***Promote vaccination:*** Annual influenza and pneumococcal vaccines for at-risk patients.
* ***Encourage adherence*** to medication and follow-up schedules.

#### ****B. Pharmacological Management****

**For Asthma (Stepwise Approach):**

1. ***Reliever medication:*** Inhaled short-acting beta-agonists (e.g., salbutamol).
2. ***Controller medication*:** Inhaled corticosteroids (e.g., beclomethasone).
3. ***Add-on therapy*:** Long-acting bronchodilators (if symptoms persist).

**For COPD:**

* ***Bronchodilators:*** Short- or long-acting agents for symptom relief.
* ***Corticosteroids*:** Inhaled corticosteroids for severe or frequent exacerbations.
* ***Oxygen therapy:*** For patients with chronic hypoxia (if available).

#### ****Follow-Up and Monitoring****

* Review every **3–6 months** (or sooner if symptoms worsen).
* Monitor:
  + Symptom control (e.g., cough, wheezing, breathlessness).
  + Exacerbation frequency.
  + Inhaler adherence and technique.
* Encourage **self-management plans**, where patients recognize early signs of exacerbation and seek care promptly.

**Referral Criteria:**

* Poor symptom control despite treatment
* Frequent hospital admissions
* Suspected tuberculosis or lung cancer
* Oxygen saturation <90% (if pulse oximetry available)

### ****6. Facilitator Activities and Discussion****

***Activity 1: Role Play***

* Divide participants into pairs.
* One plays the role of a health worker, the other a patient with asthma.
* Practice counselling on inhaler use, avoidance of triggers and medication adherence.

***Activity 2: Group Work***

Divide into 3 groups. Each group identifies local challenges in managing CRDs (e.g., lack of inhalers, low awareness, biomass fuel exposure).

* Each group presents one feasible community-level solution.

***Activity 3: Case Study Discussion***

* Provide a case of a 45-year-old smoker with chronic cough and breathlessness.
* Groups discuss:
  + Likely diagnosis
  + Management plan using WHO PEN steps
  + Follow-up and referral criteria

### ****7. Key Takeaways****

* Chronic Respiratory Diseases (Asthma and COPD) are major, preventable causes of death and disability.
* Early detection and consistent management at PHC level can prevent complications and hospitalizations.
* WHO PEN provides simple, effective guidance for screening, treatment and referral of CRD patients.
* Health workers play a key role in **smoking cessation, patient education and trigger avoidance.**

### ****Training Methods:****

* PowerPoint presentation and visual aids
* Group discussions and case studies
* Role-plays for counselling and inhaler use
* Q&A and short quiz to assess understanding

## MODULE SIX

## ****MODULE SIX****

## ****Cancer Early Detection****

### ****Learning Objective:****

To enhance participants’ understanding of **cancer prevention, early detection and management** in line with the **WHO PEN strategy** and the **national cancer control framework,** with a focus on **primary health care (PHC)** level interventions in Pakistan.

### ****Session Outline****

1. Overview of Cancer and its Global Impact
2. Common Cancers in Pakistan
3. Risk Factors and Prevention Strategies (WHO PEN Step 1)
4. Early Detection and Screening (WHO PEN Step 2)
5. Referral and Follow-up (WHO PEN Step 3)
6. Facilitator Activities and Discussion

### ****1. Overview of Cancer****

Cancer is a group of diseases in which **abnormal cells grow uncontrollably**, invade surrounding tissues and may spread (metastasize) to other parts of the body. It can affect almost any organ and is one of the leading causes of death worldwide.

* Globally, **10 million people die from cancer each year.**
* Around **one-third of cancer deaths** are due to five key risk behaviors: **tobacco use, alcohol use, unhealthy diet, physical inactivity and air pollution.**
* About **30–50% of cancers are preventable** through healthy lifestyles and earlydetection.

In Pakistan, cancer is a growing public health concern due to limited screening services, late diagnosis and low awareness among the population.

### ****2. Common Cancers in Pakistan****

According to WHO and Pakistan’s National Cancer Registry:

* ***Breast Cancer*** – Most common among women; one in nine women is likely to develop breast cancer in her lifetime.
* ***Oral Cancer*** – Common among both men and women; strongly linked with tobacco and betel nut use.
* ***Lung Cancer*** – Common among men; associated with smoking and air pollution.
* ***Cervical Cancer*** – Major cause of death among women; preventable through HPV vaccination and screening.
* ***Colorectal Cancer*** – Increasing due to poor diet and sedentary lifestyle.

### ****3. Risk Factors and Prevention Strategies (WHO PEN Step 1)****

#### ****Modifiable Risk Factors****

* **Tobacco use** – Causes 22% of all cancer deaths; includes smoking and smokeless forms (naswar, gutka, pan, chalia).
* **Unhealthy diet** – High intake of red meat, low fruit and vegetable consumption.
* **Physical inactivity and obesity.**
* **Alcohol use** (where relevant).
* **Air pollution and occupational exposure** to chemicals, asbestos, or dust.

#### ****Non-Modifiable Risk Factors****

* Age and gender
* Family history of cancer
* Genetic predisposition

#### ****Primary Prevention Actions****

At PHC level, prevention focuses on community education and health promotion:

* **Tobacco cessation counselling** at every patient contact.
* Promote **healthy diet** and **physical activity**.
* Encourage **HPV vaccination** for adolescent girls (where available).
* Advocate **avoidance of betel nut, gutka and naswar**.
* Educate on **sun protection** and occupational safety.

### ****4. Early Detection and Screening (WHO PEN Step 2)****

Early detection improves treatment outcomes and survival. PHC workers play a key role in identifying warning signs and promoting screening.

#### ****A. Breast Cancer****

* ***Self-Breast Examination (SBE):*** Educate women (20+ years) to check for lumps or changes monthly.
* ***Clinical Breast Examination (CBE):*** Health worker to perform every 2 years for women aged 30–49.
* ***Referral for Mammography*:** Women 50 years and above or those with family history.

#### ****B. Cervical Cancer****

* Caused mainly by persistent **Human Papilloma Virus (HPV)** infection.
* ***Screening methods:***
  + Visual Inspection with Acetic Acid (VIA) – feasible for PHC.
  + Pap Smear – where laboratory support exists.
* ***Frequency:*** Every 3–5 years for women aged 30–49.
* ***HPV Vaccination*:** Two doses for adolescent girls (9–14 years).

#### ****C. Oral Cancer****

* ***Screening:*** Visual examination of oral cavity for red/white patches, ulcers, or lumps.
* ***High-risk groups*:** Tobacco or betel nut users.
* ***Counselling:*** Promote quitting all tobacco products and maintaining good oral hygiene.

#### ****D. Lung Cancer****

* ***Screening:*** Symptom-based approach — persistent cough (>2 weeks), weight loss, blood in sputum, chest pain.
* ***Primary prevention*:** Strong focus on tobacco control and air pollution awareness.

#### ****E. General Warning Signs of Cancer (CAUTION acronym):****

* **C**hange in bowel or bladder habits
* **A** sore that does not heal
* **U**nusual bleeding or discharge
* **T**hickening or lump in breast or elsewhere
* **I**ndigestion or difficulty swallowing
* **O**bvious change in a wart or mole
* **N**agging cough or hoarseness

### ****5. Referral and Follow-Up (WHO PEN Step 3)****

**Referral Criteria:**

* Any patient with a suspected lesion, lump, non-healing sore, or bleeding.
* Women with abnormal breast findings or positive VIA/Pap test.
* Patients with persistent respiratory or digestive symptoms despite treatment.

**Follow-Up at PHC Level:**

* Record and track all referred cases.
* Provide psychosocial support and counselling.
* Reinforce lifestyle modification and tobacco cessation.
* Encourage treatment adherence after referral.

### ****6. Facilitator Activities and Discussion****

**Activity 1: Group Discussion – “Cancer in My Community”**

* Divide participants into small groups.
* Each group discusses the most common cancers in their district and identifies local risk factors (e.g., tobacco, poor diet, pollution).
* Groups present one key prevention strategy for their local context.

**Activity 2: Demonstration – “How to Perform a Clinical Breast Exam”**

* Trainer demonstrates breast examination using an anatomical model or diagram.
* Participants practice identifying abnormalities and counselling women on self-examination.

**Activity 3: Role Play – “Tobacco Cessation Counselling”**

* In pairs, one participant plays a smoker using naswar/gutka; the other plays a health worker.
* Practice brief counselling using the **5A’s approach (Ask, Advise, Assess, Assist, Arrange).**

**Activity 4: Case Study**

* Case: 35-year-old woman presents with a breast lump and family history of breast cancer.
* Group discusses:
  + Risk assessment
  + Immediate actions and counselling
  + Referral process and follow-up plan

### ****7. Key Takeaways****

* Up to **50% of cancers are preventable** through healthy lifestyles and vaccination.
* **Early detection saves lives** — PHC workers must identify warning signs and promote screening.
* **Tobacco cessation** is the single most effective way to prevent multiple cancers.
* WHO PEN provides a **practical framework** for integrating cancer prevention and screening into primary health care services.

### ****Training Methods****

* PowerPoint presentations and visual aids
* Group discussions and case studies
* Role-plays for counselling and awareness messages
* Demonstration using models or charts

### ****Training Facilities and Materials****

* Projector and slides
* Flip charts, markers, handouts
* Breast exam models or posters
* WHO PEN algorithms for cancer screening
* Case study handouts

**MODULE SEVEN**

**PREVENTION AND HEALTH PROMOTION**



# ****MODULE SEVEN: Prevention and Health Promotion****

### ****Learning Objective:****

To enable participants to understand the importance of **prevention and health promotion** in reducing the burden of NCDs and to strengthen their capacity to implement effective health education, community awareness and preventive strategies at the **Primary Health Care (PHC)** level in alignment with the **WHO PEN (Package of Essential Noncommunicable Disease Interventions)** approach.

## ****Session Outline****

1. Introduction to Prevention and Health Promotion
2. Role of PHC in NCD Prevention
3. The 5A’s Framework for Behavioral Change
4. Health Education and Community Awareness
5. Levels of Prevention: Primary, Secondary and Tertiary
6. Group Discussion and Activities

## ****1. Introduction****

Prevention and health promotion are the **cornerstones of NCD control**. Since most non-communicable diseases share common modifiable risk factors — including **tobacco use, unhealthy diet, physical inactivity and harmful use of alcohol** — effective preventive strategies can significantly reduce disease burden and premature deaths.

This module provides guidance for facilitators and PHC staff to integrate prevention and health promotion into their daily work through education, screening, community engagement and supportive environments. It emphasizes empowering individuals and communities to make informed health decisions and adopt healthy lifestyles.

## ****2. Role of PHC in NCD Prevention****

Primary Health Care (PHC) serves as the **first point of contact** between the health system and the community. Its role in NCD prevention and management is vital because it focuses on **accessible, community-centered and continuous care.**

PHC workers can identify risk factors early, provide brief interventions, promote healthy behaviors and coordinate care for patients with chronic diseases. By implementing WHO PEN protocols, PHC teams can deliver **cost-effective and evidence-based interventions** to reduce morbidity and mortality associated with NCDs.

## **3. The 5A’s Framework for Behavioral Change**

Behavioral modification is central to NCD prevention. The **5A’s approach**—originally developed for reducing alcohol consumption—has been effectively applied to managing all behavioral risk factors such as smoking, poor diet, physical inactivity and harmful alcohol use.

|  |  |  |
| --- | --- | --- |
| **Step** | **Description** | **Examples of PHC Actions** |
| **ASK** | Ask all patients about smoking, diet, alcohol use and physical activity. | Incorporate lifestyle questions during every consultation. |
| **ASSESS** | Assess readiness to change and level of dependence. | Evaluate patient motivation and barriers to change. |
| **ADVISE** | Give brief, non-judgmental advice using motivational techniques. | Educate on risks and benefits of behavior change. |
| **ASSIST** | Provide counseling, educational materials and pharmacotherapy if needed. | Offer tobacco cessation support, diet plans, or referral to programs. |
| **ARRANGE** | Arrange follow-up visits and referrals for ongoing support. | Schedule follow-ups, link patients to lifestyle groups or dieticians. |

This structured approach helps PHC providers engage patients effectively and encourage sustainable lifestyle changes.

## ****4. Health Education and Community Awareness****

### ****Key Components at PHC Level****

#### *1.* ***Raising Awareness about NCDs***

* Promote healthy lifestyles (balanced diet, physical activity, tobacco and alcohol control).
* Educate on early signs and symptoms of common NCDs (e.g., chest pain, shortness of breath, blurred vision).
* Encourage regular checkups for blood pressure, glucose and cholesterol.

#### *2.* ***Community-Based Programs***

* Conduct **workshops and campaigns** in schools, workplaces and communities.
* Use **media outreach** (radio, TV, social media) to spread awareness messages.
* Distribute **printed materials** such as posters, brochures and leaflets.

#### *3.* ***Training Health Workers***

* Build capacity of PHC staff to screen, counsel and monitor NCDs.
* Strengthen communication and motivational interviewing skills.

#### *4.* ***Promoting Healthy Lifestyles***

* Organize **community exercise sessions**, walking clubs, or sports days.
* Offer **nutritional education** sessions with practical cooking and meal planning tips.
* Implement **smoking cessation and alcohol reduction programs.**

#### *5.* ***Screening and Early Detection***

* Regular screening for **hypertension, diabetes, dyslipidemia and cancer (breast, cervical, oral).**
* Ensure **clear referral networks** for positive or high-risk cases.

#### *6.* ***Involving Community Leaders***

* Engage **religious, traditional and local leaders** to promote preventive messages.
* Train **peer educators** to encourage lifestyle change in their communities.

#### *7.* ***Access to Information***

* Make PHC centers serve as **community information hubs.**
* Use **mobile health (mHealth)** and SMS reminders to reinforce healthy behaviors.

#### *8.* ***Addressing Social Determinants***

* Advocate for **education, employment and healthy urban environments**.
* Promote **green spaces, parks and safe walking or cycling routes**.

## ****5. Levels of Prevention****

NCD prevention operates across **three interconnected levels** — Primary, Secondary and Tertiary.

|  |  |  |
| --- | --- | --- |
| **Level** | **Goal** | **Key Strategies** |
| ****Primary Prevention**** | Prevent disease onset by reducing risk factors. | Promote healthy lifestyles, public health policies, safe food, clean air, HPV vaccination. |
| ****Secondary Prevention**** | Detect and treat early-stage disease. | Screening (BP, glucose, cholesterol, cancers), early interventions, lifestyle counseling. |
| ****Tertiary Prevention**** | Reduce complications and disability in established disease. | Disease management, rehabilitation, palliative care, psychosocial support. |

Each level is essential in reducing the NCD burden and should be implemented through **integrated, multisectoral efforts** involving health systems, communities and policymakers.

## ****6. Group Discussion and Activities****

***Activity: Group Discussion***   
Topic: “Identifying Local NCD Risk Factors and Prevention Strategies”

* Divide participants into small groups.
* Each group identifies key NCD risk factors prevalent in their community (e.g., smoking, poor diet, lack of exercise).
* Groups propose realistic prevention strategies that can be implemented at the PHC or community level.
* Facilitator summarizes and highlights best ideas.

## ****7. Key Takeaways****

* Prevention & health promotion are the **most cost-effective strategies** for reducing NCDs.
* PHC workers are **key agents of change** in promoting healthy lifestyles and early detection.
* The **5A’s approach** provides a practical method for counseling and behavior modification.
* Effective NCD control requires **community involvement, supportive policies and continuous education** at all levels.

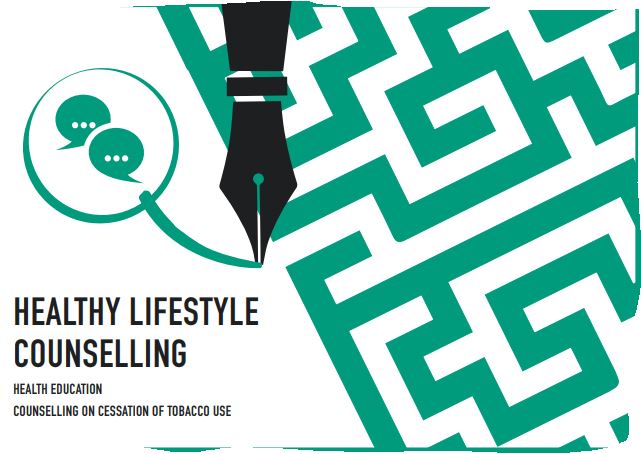
## ****Training Methods****

* Mini-lecture and discussion
* Group work and case analysis
* Role play and demonstration
* Community mapping and brainstorming

## ****Training Materials****

* Flip charts, markers, handouts on the 5A’s model
* WHO PEN guidelines
* Posters or IEC materials on NCD prevention
* Sample health education materials for practice

**MODULE EIGHT**



**MODULE EIGHT**

**HEALTHY LIFESTYLE COUNSELLING (WHO PEN APPROACH)**

**Session Title:** Promoting Healthy Lifestyles through WHO PEN Counselling Approach

**Session Overview:**

This module introduces participants to the WHO Package of Essential Noncommunicable Disease Interventions (WHO PEN) approach for healthy lifestyle counselling. The session focuses on equipping primary health care (PHC) workers with practical counselling skills to help individuals and communities adopt healthier behaviours — including quitting tobacco, improving diet, increasing physical activity, reducing harmful alcohol use and managing stress.

**Session Objectives:**

By the end of this session, participants will be able to:

1. Understand the purpose and key components of the WHO PEN healthy lifestyle counselling approach.
2. Apply the 5A’s model (Ask, Assess, Advise, Assist, Arrange) in counselling patients at PHC level.
3. Demonstrate effective communication and motivational counselling techniques for behavior change.
4. Identify opportunities within PHC to promote healthy living and prevent NCDs.

**Training Methods:**

* Interactive presentation and discussion
* Group brainstorming and role-play
* Question and answer sessions
* Demonstration of the 5A’s model

**Session Outline:**

|  |  |  |
| --- | --- | --- |
| Activity | Content/Details | Materials/Tools |
| 1. Introduction & Icebreaker | Briefly introduce the concept of lifestyle counselling within the WHO PEN framework. Ask participants to name one unhealthy lifestyle habit common in their communities. | Flip chart and markers |
| 2. Presentation: WHO PEN Lifestyle Counselling | - Explain the WHO PEN approach and its relevance to PHC. - Discuss the 5A’s counselling model:  **Ask:** Identify use of tobacco, alcohol, diet and activity level. **Assess:** Readiness to change and risk level. **Advise:** Give clear, personalized and supportive advice. **Assist:** Help patients set goals, provide materials, or refer for support. **Arrange:** Plan follow-up visits or referrals to community programs. | PowerPoint slides, WHO PEN job aid |
| 3. Role-Play Activity: Applying the 5A’s Model | Divide participants into pairs. Each pair acts as a health worker and patient. The “health worker” practices using the 5A’s model for lifestyle counselling (e.g., helping a patient quit smoking or reduce salt intake). | Role-play scenarios, flip chart |
| 4. Group Discussion | Ask participants to share challenges they face when counselling patients on behaviour change. Discuss practical solutions (e.g., using local examples, peer support, LHW involvement). | Flip chart, markers |
| 5. Summary & Wrap-Up | - Healthy lifestyle counselling is a cost-effective tool. - Use the 5A’s consistently in PHC settings. - Document counselling and follow-up for continuity of care. | PowerPoint slide with summary |

**Training Facilities and Materials:**

* Projector and slides for presentation
* Flip charts, markers and handouts
* WHO PEN counselling job aid (5A’s framework)
* Case scenarios for group role-play

**Key Discussion Points for Facilitator:**

* Why is lifestyle counselling an essential part of NCD prevention?
* What are common barriers to lifestyle change in local communities?
* How can PHC staff integrate brief counselling into routine visits?
* What local resources (e.g., LHWs, community groups, media) can support ongoing counselling?

**Expected Outcomes:**

After the session, participants will:

* Understand how to deliver WHO PEN-based lifestyle counselling using the 5A’s approach.
* Be confident in conducting brief, effective counselling sessions in PHC settings.
* Recognize their role in promoting healthy living and preventing NCDs at the community level.

**MODULE NINE**



**MODULE NINE**

**WHO PEN — SELF-CARE IN NCD PREVENTION AND MANAGEMENT**

**Session Title:** Empowering Patients and Communities through Self-Care

**Session Overview:**

This session introduces participants to the WHO PEN self-care approach, emphasizing the critical role of individuals, families and communities in preventing and managing non-communicable diseases (NCDs). Self-care enables people to take charge of their health through healthier choices, disease monitoring, medication adherence and emotional well-being. Primary Health Care (PHC) workers play a key role in empowering individuals to adopt sustainable self-care practices through education, support and follow-up.

**Session Objectives:**

By the end of this session, participants will be able to:

1. Define self-care and explain its importance within the WHO PEN framework.
2. Identify key self-care practices for the prevention and management of major NCDs.
3. Demonstrate how PHC workers can promote and support self-care among patients and communities.
4. Use simple tools and counselling techniques to help individuals monitor their own health.

**Training Methods:**

* Interactive presentation and guided discussion
* Group brainstorming
* Role-play or demonstration
* Q&A session

**Session Outline:**

|  |  |  |
| --- | --- | --- |
| Activity | Content/Details | Materials/Tools |
| 1. Introduction & Icebreaker | Ask participants: “What does self-care mean to you?” Collect responses and relate them to NCD management. | Flip chart and markers |
| 2. Presentation: WHO PEN Self-Care Concept | - Define self-care in the context of WHO PEN. - Discuss why self-care is vital for NCD prevention  - Explain the PHC worker’s role in enabling self-care | PowerPoint slides, WHO PEN handout |
| 3. Key Components of Self-Care | Discuss essential self-care actions:  **1. Healthy lifestyle:** physical activity, healthy diet, quitting tobacco/alcohol. **2. Medication adherence:** taking prescribed medicines regularly and correctly. **3. Self-monitoring:** checking blood pressure, blood glucose, weight. **4. Recognizing warning signs:** when to seek help (e.g., chest pain, vision loss). **5. Stress management:** using relaxation, breathing, or social support. | PowerPoint slides, flip chart |
| 4. Group Activity: Designing a Self-Care Plan | Divide participants into small groups. Each group designs a “self-care plan” for one NCD (e.g., hypertension, diabetes, COPD). The plan should include lifestyle goals, self-monitoring steps | Flip charts, markers |
| 5. Discussion & Sharing | Groups present their self-care plans briefly. Discuss how PHC workers can support patients in implementing these plans at home and in the community. | Flip charts |
| 6. Summary & Wrap-Up | - Self-care empowers patients and reduces NCD complications. - PHC workers should regularly educate, encourage and track patient self-care efforts. | PowerPoint summary slide |

**Training Facilities and Materials:**

* Projector and slides for presentation
* Flip charts, markers and handouts
* WHO PEN self-care framework/job aid
* Case studies or examples from local context

**Key Discussion Points for Facilitator:**

* How can we make self-care feasible in low-resource communities?
* What challenges do patients face in following self-care practices?
* How can PHC workers motivate patients to take ownership of their health?
* How can community and family members support self-care behaviours?

**Expected Outcomes:**

After completing this session, participants will:

* Understand the concept and importance of self-care in NCD prevention and management.
* Be able to guide patients in creating personalized self-care plans.
* Recognize the role of PHC workers in supporting community-led health improvement.
* Be familiar with WHO PEN tools that promote self-monitoring and patient empowerment.

**MODULE TEN**

**MODULE TEN**

**WHO PEN — PALLIATIVE CARE FOR NCDs**

**Session Title:** Integrating Palliative Care into Primary Health Care

**Session Overview:**

This session focuses on the importance of palliative care as outlined in the WHO Package of Essential Noncommunicable Disease (PEN) interventions. Palliative care aims to improve the quality of life for patients and families facing life-threatening illnesses, such as cancer, advanced cardiovascular diseases, chronic respiratory conditions and complications of diabetes. It involves relieving pain, managing physical and psychological symptoms and providing emotional and social support.

Primary Health Care (PHC) workers play a key role in identifying patients in need, managing common symptoms, supporting families and ensuring care with compassion and dignity at every stage of illness.

**Session Objectives:**

By the end of this session, participants will be able to:

1. Define palliative care and explain its importance within the WHO PEN framework.
2. Identify key components of palliative care that can be delivered at the PHC level.
3. Recognize when and how to refer patients for advanced palliative care support.

**Training Methods:**

* Interactive presentation
* Group discussion
* Case scenario and role-play
* Q&A and reflection

**Session Outline:**

|  |  |  |
| --- | --- | --- |
| Activity | Content/Details | Materials/Tools |
| 1. Introduction & Reflection | Begin with a short discussion: “What comes to your mind when you hear the term *palliative care*?” Clarify common misconceptions (e.g., it is only for cancer or only at end of life). | Flip chart |
| 2. Presentation: Concept and Principles of Palliative Care | - Definition and goals of palliative care (WHO PEN). - Focus on improving quality of life, not just extending life. - Applies from diagnosis through all stages of illness. - Emphasize dignity, comfort and family involvement. | PowerPoint slides |
| 3. Key Components of Palliative Care at PHC Level | Discuss components that PHC workers can deliver: • Pain and symptom relief (using WHO pain ladder). • Emotional, social and spiritual support. • Family counselling and bereavement support. • Coordination with higher-level care and community resources. • Home-based care and follow-up. | WHO PEN job aid, flip chart |
| 4. Case Scenario and Role-Play | Divide participants into small groups. Give a case (e.g., patient with advanced COPD or cancer). Groups discuss: - How to assess and relieve symptoms. - How to communicate with the patient and family. - When to refer for advanced care. | Case handouts, flip chart |
| 5. Summary & Key Messages | - Palliative care is part of routine NCD management. - Focus on comfort, dignity and holistic care. - PHC workers should recognize pain and distress early. - Simple interventions can greatly improve quality of life. | Slide/flip chart |

**Training Materials:**

* WHO PEN module on Palliative Care
* Flip charts and markers
* PowerPoint slides or posters
* Case studies (e.g., cancer, COPD, end-stage heart failure)

**Key Discussion Points for Facilitator:**

* How can palliative care be provided in resource-limited PHC settings?
* What barriers do patients face in accessing palliative care?
* How can community and family support systems strengthen palliative care delivery?
* What simple comfort measures can PHC staff offer even without advanced medication?

**Expected Outcomes:**

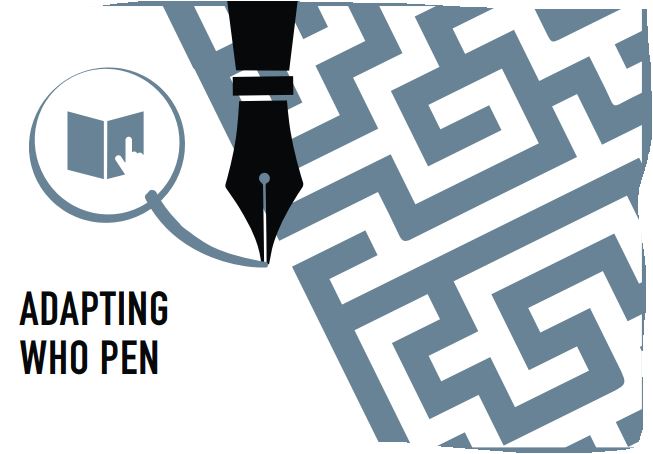
After completing this session, participants will:

* Understand the role of palliative care within WHO PEN for NCDs.
* Be able to provide basic symptom relief and psychosocial support.
* Communicate effectively and empathetically with patients and families.
* Know when to refer patients for advanced or specialized palliative care.

**Facilitator Tips:**

* Use local examples or experiences to make the topic relatable.
* Reinforce empathy and communication as essential skills.
* Encourage participants to see palliative care as part of continuous care, not the final stage.

**MODULE ELEVEN**



**MODULE ELEVEN**

**ADAPTING THE WHO PEN INTERVENTIONS**

**Session Title:** Local Adaptation and Implementation of the WHO Package of Essential Noncommunicable Disease (PEN) Interventions

**Session Overview:**

The WHO Package of Essential Noncommunicable Disease Interventions (PEN) provides a standardized, evidence-based framework for delivering cost-effective care for NCDs at the Primary Health Care (PHC) level. However, successful implementation depends on local adaptation — tailoring the PEN protocols, tools and workflows to fit the country’s or region’s health system capacity, resources and population needs.

This session explores how facilitators and health managers can adapt, integrate and scale up WHO PEN interventions within their local context while maintaining fidelity to core principles. The focus will be on contextualization, capacity building, community engagement and monitoring progress.

**Session Objectives:**

By the end of this session, participants will be able to:

1. Explain the importance of adapting WHO PEN interventions for local contexts.
2. Identify the key steps and considerations in contextualizing WHO PEN.
3. Recognize potential challenges and enablers in implementation.
4. Develop a basic plan for adapting WHO PEN to their local PHC setting.

**Session Outline:**

|  |  |  |
| --- | --- | --- |
| Activity | Content/Details | Materials/Tools |
| 1. Introduction and Context Setting | Facilitator introduces the session by asking: “Why do global health guidelines often need local adaptation?”  Explain the concept of contextualization — adapting WHO PEN to suit available workforce, medication supply, diagnostics and local health priorities. | Flip chart |
| 2. Presentation: Overview of WHO PEN and Need for Adaptation | - Review the core components of WHO PEN (screening, management, referral, self-care, palliative care). - Discuss the rationale for adaptation — differing epidemiological patterns, resource availability and cultural factors. - Emphasize that adaptation maintains the *core principles* but allows for flexibility. | PowerPoint slides |
| 3. Group Exercise: Steps in Adapting WHO PEN | Divide participants into small groups. Each group identifies how they would adapt WHO PEN in their own district or health facility.  Steps may include: 1. Situation analysis and needs assessment. 2. Stakeholder engagement. 3. Prioritization of feasible interventions. 4. Customization of protocols, job aids and referral pathways. 5. Capacity building and resource mobilization. 6. Monitoring and evaluation framework. | Flip chart, handout |
| 4. Case Study Discussion: Local Implementation Example | Present a short case study (e.g., a district PHC center implementing WHO PEN for hypertension and diabetes screening).  Ask: What challenges might arise? How can they be addressed using local solutions? | Case study sheet |
| 5. Summary and Key Messages | Summarize lessons: - Adaptation ensures sustainability and ownership. - Collaboration among health departments, communities and NGOs is vital. - Continuous monitoring and feedback are essential for improvement. - WHO PEN should align with national NCD policies and primary care reforms. | Slide/flip chart |
| 6. Wrap-up & Q&A | Invite participants to share key reflections and ideas for next steps in adapting WHO PEN in their local context. | Open discussion |

**Training Methods:**

* Interactive presentation
* Group discussion and brainstorming
* Case study exercise
* Question and answer

**Training Materials:**

* WHO PEN protocols and country adaptation examples
* Flip charts and markers
* Local health system maps or PHC profiles
* Handouts: “Checklist for Local Adaptation of WHO PEN”

**Key Discussion Points for Facilitator:**

* What aspects of WHO PEN require modification in your setting (e.g., drug list, referral protocols, data tools)?
* How can local health authorities and communities support adaptation?
* What resources or partnerships are needed for sustainability?
* How can we monitor the success of local adaptation efforts?

**Expected Outcomes:**

After completing this session, participants will:

* Understand the rationale and process for adapting WHO PEN.
* Be able to identify key contextual factors that influence adaptation.
* Have a draft plan or outline for integrating WHO PEN into their PHC system.
* Recognize the importance of coordination and monitoring for sustainability.

**Facilitator Tips:**

* Use local examples wherever possible (e.g., existing NCD programs or pilot districts).
* Emphasize participatory planning — encourage sharing of ideas.
* Reinforce that adaptation ≠ changing evidence-based principles, but adjusting delivery methods to context.
* Link the discussion to previous modules (self-care, palliative care, lifestyle counselling).

**WHO PEN Adaptation Checklist**

**Purpose:**  
This checklist helps facilitators and local health authorities ensure that WHO PEN interventions are effectively adapted to the local context while maintaining global standards and quality of care.

**1. Policy and Governance**

✅ Have national or provincial NCD policies been reviewed before adaptation?  
✅ Is WHO PEN aligned with existing primary health care (PHC) strategies?  
✅ Have roles and responsibilities been defined at all levels (facility, district, province)?  
✅ Is there a mechanism for coordination between departments (e.g., NCD, MCH, nutrition, pharmacy)?

**2. Situation Analysis**

✅ Has a situational assessment been conducted to understand local NCD burden, risk factors and service availability?  
✅ Are community health needs and barriers to care identified (e.g., affordability, awareness, gender barriers)?  
✅ Are available medicines, diagnostics and human resources mapped?

**3. Human Resources and Capacity Building**

✅ Are all PHC staff (doctors, nurses, LHVs, CHWs) trained in WHO PEN protocols?  
✅ Is there a plan for ongoing mentoring and supervision?  
✅ Have clear task-sharing arrangements been defined (e.g., CHWs for screening, nurses for counselling)?

**4. Essential Medicines and Supplies**

✅ Are the recommended essential NCD medicines available (e.g., antihypertensives, insulin, statins)?  
✅ Is there a reliable procurement and supply chain mechanism?  
✅ Are basic diagnostic tools available (BP machine, glucometer, cholesterol strips, urine dipsticks)?  
✅ Are equipment maintenance and stock monitoring systems functional?

**5. Service Delivery and Referral System**

✅ Are NCD services integrated into PHC (screening, counselling, follow-up)?  
✅ Are referral pathways established for complex cases (e.g., suspected heart disease, advanced diabetes)?  
✅ Are feedback mechanisms in place between referral and PHC levels?  
✅ Are patient records standardized and maintained for continuity of care?

**6. Community Engagement and Health Promotion**

✅ Have community leaders and local organizations been engaged in NCD prevention activities?  
✅ Are health promotion materials culturally appropriate and available in local languages?  
✅ Are community-based screening and education campaigns planned?  
✅ Are self-care and lifestyle counselling incorporated into outreach activities?

**7. Monitoring, Evaluation and Data Use**

✅ Are standardized indicators for NCDs (BP, BMI, glucose levels, medication adherence) being recorded?  
✅ Is there a data reporting and feedback system at district and provincial levels?  
✅ Are outcome indicators (control rates, follow-up rates) tracked over time?  
✅ Is data used for decision-making and quality improvement?

**8. Sustainability and Scale-up**

✅ Are there budget allocations for NCD services within the PHC plan?  
✅ Are there partnerships with NGOs, academia, or development partners?  
✅ Is there a plan to scale up successful interventions to other districts?  
✅ Are lessons learned documented and shared?

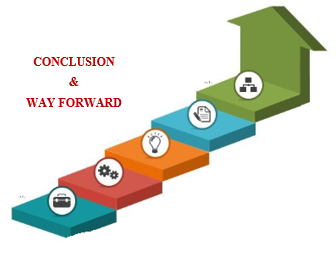
**Summary Scoring Guide**

|  |  |  |  |
| --- | --- | --- | --- |
| Domain | Yes | No | Partial |
| Policy & Governance | ☐ | ☐ | ☐ |
| Situation Analysis | ☐ | ☐ | ☐ |
| Human Resources | ☐ | ☐ | ☐ |
| Medicines & Supplies | ☐ | ☐ | ☐ |
| Service Delivery & Referral | ☐ | ☐ | ☐ |
| Community Engagement | ☐ | ☐ | ☐ |
| Monitoring & Evaluation | ☐ | ☐ | ☐ |
| Sustainability | ☐ | ☐ | ☐ |

**Facilitator Notes:**

* Use this checklist during group exercises or district-level planning.
* Encourage teams to prioritize *feasible* actions within existing resources.
* Emphasize the goal of gradual, continuous improvement rather than one-time implementation.

**MODULE TWELVE**



**MODULE TWELVE**

**CONCLUSION AND WAY FORWARD**

**Session Type:** Discussion and Reflection

**Session Objectives:**

By the end of this session, facilitators and participants will be able to:

1. Understand the importance of integrating NCD management into routine Primary Health Care (PHC).
2. Identify key policy, system and community strategies to strengthen NCD prevention and care at the PHC level.
3. Recognize the challenges and strategies for managing multimorbidity within PHC settings.
4. Reflect on lessons learned throughout the training and propose practical next steps for implementation at their health facilities.

**Session Overview:**

This final module focuses on consolidating learning from previous sessions and outlining the way forward for implementing WHO PEN and NCD care within Pakistan’s primary health care system. The session highlights integration of NCDs into routine PHC, coordination across sectors, community engagement and managing multimorbidity.

**1. Integrating NCDs into Routine PHC**

Integrating Noncommunicable Diseases (NCDs) into PHC is essential for addressing the growing burden of chronic diseases such as cardiovascular disease, diabetes, cancers and chronic respiratory disorders. PHC serves as the first and most accessible level of care, making it ideal for prevention, early detection, management and follow-up of NCDs.

**Key Strategies:**

* *Policy and Governance:*
  + Develop and enforce national NCD strategies and policies that prioritize PHC-based interventions.
  + Strengthen intersectoral collaboration (health, education, agriculture, urban planning) to address social determinants of health.
  + Allocate adequate funding and ensure resource availability for NCD management at PHC level.
* *Training and Capacity Building:*
  + Train PHC staff, including doctors, nurses, LHVs and CHWs, on WHO PEN protocols, screening tools and counselling techniques.
  + Introduce continuous professional development opportunities for NCD updates and mentoring.
* *Integrated Screening and Early Detection:*
  + Incorporate regular screening for blood pressure, blood glucose, cholesterol and BMI into routine PHC visits.
  + Use standardized risk assessment tools to identify high-risk individuals early.
* *Prevention and Health Promotion:*
  + Promote healthy diets, physical activity, tobacco cessation and reduced alcohol use.
  + Conduct culturally tailored community awareness campaigns about NCD risk factors and early warning signs.

**2. Addressing Multimorbidity in PHC**

Multimorbidity refers to the coexistence of two or more chronic conditions in one person — for example, diabetes, hypertension and COPD. Managing multimorbidity is a growing challenge in PHC due to complex treatment plans, multiple medications and overlapping care needs.

**Challenges:**

* Polypharmacy and drug interactions.
* Conflicting treatment priorities between conditions.
* Time constraints and limited PHC resources.
* Poor coordination among multiple providers.
* Low patient adherence to treatment and lifestyle changes.
* Mental health comorbidities such as depression or anxiety.

**Strategies for Managing Multimorbidity:**

* *Patient-Centered, Holistic Care:* Focus on the person, not the disease. Engage patients in shared decision-making and care planning.
* *Integrated Service Delivery:* Provide one-stop, multidisciplinary PHC services for NCD management.
* *Medication Management:* Simplify regimens, promote fixed-dose combinations and conduct periodic medication reviews.
* *Self-Management and Health Education:* Empower patients to monitor their conditions and make healthy lifestyle choices.
* *Use of Technology:* Utilize telemedicine, mobile health (mHealth) and electronic health records (EHRs) to enhance follow-up and coordination.
* *Mental Health Integration:* Include screening and support for depression, anxiety and stress management in PHC settings.

**3. Strengthening Systems for Sustainability**

* *Community Engagement:*
  + Involve community leaders, peer educators and support groups in promoting healthy living.
  + Use PHC centers as hubs for community outreach, education and screening.
* *Health Information Systems:*
  + Implement standardized data collection and reporting tools for NCD indicators.
  + Use data to improve quality of care, track progress and guide decision-making.
* *Financing and Affordability:*
  + Advocate for inclusion of NCD services and essential medicines in public health insurance schemes.
  + Promote access to affordable generic medicines.
* *Partnerships:*
  + Collaborate with NGOs, academia and private sector for capacity building, research and resource mobilization.

**4. Monitoring, Evaluation and Continuous Improvement**

* Regularly assess the quality of NCD services provided at PHC facilities.
* Use WHO PEN indicators (e.g., number screened, controlled BP/diabetes rates, follow-up coverage).
* Conduct feedback sessions with PHC staff and communities to identify gaps and successes.
* Document best practices and lessons learned for scaling up.

**5. Reflection and Group Activity**

*Activity***:** *“Our Next Steps for NCD Integration”*

* *Task:* In small groups, participants identify three practical steps they can take at their own PHC facility to strengthen NCD prevention and management.
* *Discussion Questions:*
  1. What are the main gaps in your PHC center’s current NCD services?
  2. What quick actions can you implement within 3 months?
  3. What long-term support will be needed from the district or provincial level?

Each group presents a brief summary of their “action plan” to the whole class.

**6. Facilitator Notes**

* Summarize all key learnings from Modules 1–11.
* Encourage open sharing about challenges and potential solutions in participants’ local contexts.
* Emphasize that integration of NCD care into PHC is a continuous journey, not a one-time activity.
* Reinforce the role of each participant as a change agent in improving NCD outcomes in Pakistan.

**Key Takeaway Message:**

“By making NCD prevention and management a routine part of primary health care, we can reduce the national burden of chronic diseases, save lives and improve the quality of life for our communities.”

